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* * * * * Welcome to STN International * * * * *

NEWS	1		Web Page URLs for STN Seminar Schedule - N. America
NEWS	2	Apr 08	"Ask CAS" for self-help around the clock
NEWS	3	Apr 09	BEILSTEIN: Reload and Implementation of a New Subject Area
NEWS	4	Apr 09	ZDB will be removed from STN
NEWS	5	Apr 19	US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
NEWS	6	Apr 22	Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS	7	Apr 22	BIOSIS Gene Names now available in TOXCENTER
NEWS	8	Apr 22	Federal Research in Progress (FEDRIP) now available
NEWS	9	Jun 03	New e-mail delivery for search results now available
NEWS	10	Jun 10	MEDLINE Reload
NEWS	11	Jun 10	PCTFULL has been reloaded
NEWS	12	Jul 02	FOREGE no longer contains STANDARDS file segment
NEWS	13	Jul 22	USAN to be reloaded July 28, 2002; saved answer sets no longer valid
NEWS	14	Jul 29	Enhanced polymer searching in REGISTRY
NEWS	15	Jul 30	NETFIRST to be removed from STN
NEWS	16	Aug 08	CANCERLIT reload
NEWS	17	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS	18	Aug 08	NTIS has been reloaded and enhanced
NEWS	19	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS	20	Aug 19	IFIPAT, IFICDB, and IFIUDB have been reloaded
NEWS	21	Aug 19	The MEDLINE file segment of TOXCENTER has been reloaded
NEWS	22	Aug 26	Sequence searching in REGISTRY enhanced
NEWS	23	Sep 03	JAPIO has been reloaded and enhanced
NEWS	24	Sep 16	Experimental properties added to the REGISTRY file
NEWS	25	Sep 16	Indexing added to some pre-1967 records in CA/CAPLUS
NEWS	26	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS	27	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS EXPRESS			February 1 CURRENT WINDOWS VERSION IS V6.0d, CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP), AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002
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NEWS INTER			General Internet Information
NEWS LOGIN			Welcome Banner and News Items
NEWS PHONE			Direct Dial and Telecommunication Network Access to STN
NEWS WWW			CAS World Wide Web Site (general information)

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 19:57:49 ON 09 OCT 2002

=> filecaplus

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=> file caplus

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SINCE FILE	TOTAL
ENTRY	SESSION

FULL ESTIMATED COST

0.21	0.21
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FILE 'CAPLUS' ENTERED AT 19:58:09 ON 09 OCT 2002

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FILE COVERS 1907 - 9 Oct 2002 VOL 137 ISS 15

FILE LAST UPDATED: 8 Oct 2002 (20021008/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

CAS roles have been modified effective December 16, 2001. Please check your SDI profiles to see if they need to be revised. For information on CAS roles, enter HELP ROLES at an arrow prompt or use the CAS Roles thesaurus (/RL field) in this file.

=> s oxid?

L1 2369625 OXID?

=> s l1 and aqueous

148293 AQUEOUS

1 AQUEOUSES

148294 AQUEOUS

(AQUEOUS OR AQUEOUSES)

933909 AQ

119 AQS

933982 AQ

(AQ OR AQS)

968682 AQUEOUS

(AQUEOUS OR AQ)

L2 169395 L1 AND AQUEOUS

=> s l2 catalyst

MISSING OPERATOR L2 CATALYST

The search profile that was entered contains terms or nested terms that are not separated by a logical operator.

=> s 12 and catalyst
601917 CATALYST
585163 CATALYSTS
767433 CATALYST
(CATALYST OR CATALYSTS)

L3 24536 L2 AND CATALYST

=> s 13 and nanoparticle
11088 NANOPARTICLE
17675 NANOPARTICLES
18714 NANOPARTICLE
(NANOPARTICLE OR NANOPARTICLES)

L4 67 L3 AND NANOPARTICLE

=> s 14 and stabiliz?
354798 STABILIZ?
L5 8 L4 AND STABILIZ?

=> s 15 and alcohol
165042 ALCOHOL
124445 ALCOHOLS
270252 ALCOHOL
(ALCOHOL OR ALCOHOLS)
503294 ALC
162712 ALCS
587755 ALC
(ALC OR ALCS)
681787 ALCOHOL
(ALCOHOL OR ALC)

L6 3 L5 AND ALCOHOL

=> dis 16 1-3 bib abs

L6 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2002:90690 CAPLUS

DN 136:285000

TI Deposition of Platinum **Nanoparticles**, Synthesized in
Water-in-Oil Microemulsions, on Alumina Supports

AU Ingelsten, Hanna Haerelind; Beziat, Jean-Christophe; Bergkvist, Kristina;
Palmqvist, Anders; Skoglundh, Magnus; Hu, Qiuhong; Falk, Lena K. L.;
Holmberg, Krister

CS Competence Centre for Catalysis, Department of Applied Surface Chemistry,
Department of Applied Physics, and Department of Experimental Physics,
Chalmers University of Technology, Goeteborg, SE-412 96, Swed.

SO Langmuir (2002), 18(5), 1811-1818

CODEN: LANGD5; ISSN: 0743-7463

PB American Chemical Society

DT Journal

LA English

AB Pt **nanoparticles** were prep'd. in H₂O-in-oil microemulsions and
deposited on .gamma.-alumina using 2 different methods. In the 1st
method, the alumina support was added to the particle suspension and the
microemulsion was subsequently destabilized by addn. of The, whereby the
particles were deposited on the alumina support. In the other method, the
Pt **nanoparticles** were transferred to an aq. soln.
where they were redispersed by a **stabilizing** surfactant prior to
addn. of the alumina support. The size of the microemulsion droplets and
of the unsupported Pt particles was in the range of a few nanometers as
measured by a dynamic light scattering technique (photon correlation
spectroscopy). The size of the unsupported Pt **nanoparticles** and
of the particles deposited on alumina was studied by TEM. Both methods
for Pt particle deposition resulted in some degree of particle
agglomeration, the 1st probably because of too-fast destabilization of the

microemulsion and the 2nd due to inefficient redispersion of the Pt particles when transferred to the **aq.** phase. All samples studied showed high catalytic activity for CO **oxidn.** by oxygen. The highest activity was found for those samples prepd. via the redispersion method where a relatively weak interaction was achieved between the redispersed Pt particles and the alumina.

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2000:666737 CAPLUS

DN 133:254142

TI Catalytic method for modifying carbohydrates, **alcohols**, aldehydes or polyhydroxy compounds

IN Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf; Vorlop, Klaus-Dieter; Haji Begli, Alireza

PA Sudzucker Aktiengesellschaft, Germany *important*

SO PCT Int. Appl., 45 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
	W: AU, CA, IL, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19911504	A1	20001019	DE 1999-19911504	19990316
	EP 1165580	A1	20020102	EP 2000-925117	20000316
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 747812	B2	20020523	AU 2000-43953	20000316
PRAI	DE 1999-19911504	A	19990316		
	WO 2000-EP2351	W	20000316		

AB Industrial conversion of the title compds. in **aq.** phase is carried out in the presence of metal **catalysts** consisting of polymer-stabilized nanoparticles. A catalyst of this type is not deactivated by the conversion reaction as long as the stabilizing interaction between the polymer and the nanoparticles is maintained. For example, activity of an Al₂O₃-supported, poly(vinylpyrrolidone)-stabilized Pt colloid catalyst (prepn. given) in **oxidn.** of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al₂O₃-supported Pt catalyst decreased to .apprx.35% after 10 runs.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2000:566746 CAPLUS

DN 134:117443

TI Hydrogenation of olefins in **aqueous** phase, catalyzed by ligand/protected and polymer-protected rhodium colloids

AU Borsla, A.; Wilhelm, A. M.; Canselier, J. P.; Delmas, H.

CS Laboratoire de Genie Chimique-UMR CNRS 5503 (INPT/UPS) Ecole Nationale Supérieure d'Ingenieurs de Genie Chimique, Toulouse, 31078/4, Fr.

SO Studies in Surface Science and Catalysis (2000), 130C(International *date!* Congress on Catalysis, 2000, Pt. C), 2093-2098

CODEN: SSCTDM; ISSN: 0167-2991

PB Elsevier Science B.V.

DT Journal

LA English

AB M-tri-sulfonated triphenylphosphine **oxide** as its sodium salt

(OTPPTS) and highly water sol. polymers such as poly(vinyl alc.) (PVA) and poly(vinylpyrrolidone) (PVP) were used to **stabilize** colloidal suspensions of active rhodium particles. The **stabilized** colloids were used as **catalysts** in hydrogenation of oct-1-ene in a two-liq. phase system. The effect of various parameters on the stability and activity of the metal **nanoparticles** under more or less severe conditions was studied. For OTPPTS-protected rhodium colloid systems, the colloid stability improved by increasing the P/Rh molar ratio. Lowering the pressure also improved stability, but led to lower catalytic activity while temp. had no effect on stability but rather on the formation of the active species. The PVP(K15)-Rh colloids can be re-used more than one time at 50.degree. and 0.3 MPa without loss of activity, but not the PVP(K30)-Rh and PVA-Rh colloids. Recycling of the catalytic phase provided unchanged turnover frequencies. Suppression of co-solvent did not result in noticeable changes in activity, indicating that the reaction takes place at the interface. The MET micrographs of the catalytic phase of the OTPPTS-Rh system after use in hydrogenation shows 4 nm particles contg. rhodium **oxide** and metallic rhodium. IR spectroscopy anal. of the PVP-Rh colloids shows geminal and terminal Rh-CO species with a preponderance of the geminal ones.

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s 15 and carbohydrate
108745 CARBOHYDRATE
116172 CARBOHYDRATES
176447 CARBOHYDRATE
(CARBOHYDRATE OR CARBOHYDRATES)
L7 1 L5 AND CARBOHYDRATE

=> dis 17 ibib abs

L7 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 2000:666737 CAPLUS
DOCUMENT NUMBER: 133:254142
TITLE: Catalytic method for modifying **carbohydrates**
, alcohols, aldehydes or polyhydroxy compounds
INVENTOR(S): Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf;
Vorlop, Klaus-Dieter; Haji Begli, Alireza
PATENT ASSIGNEE(S): Sudzucker Aktiengesellschaft, Germany
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
W: AU, CA, IL, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
DE 19911504	A1	20001019	DE 1999-19911504	19990316
EP 1165580	A1	20020102	EP 2000-925117	20000316
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
AU 747812	B2	20020523	AU 2000-43953	20000316
PRIORITY APPLN. INFO.:			DE 1999-19911504 A	19990316
			WO 2000-EP2351 W	20000316

AB Industrial conversion of the title compds. in **aq.** phase is carried out in the presence of metal **catalysts** consisting of polymer-**stabilized nanoparticles**. A **catalyst**

of this type is not deactivated by the conversion reaction as long as the **stabilizing** interaction between the polymer and the **nanoparticles** is maintained. For example, activity of an Al₂O₃-supported, poly(vinylpyrrolidone)-**stabilized** Pt colloid **catalyst** (prepn. given) in **oxidn.** of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al₂O₃-supported Pt **catalyst** decreased to .apprx.35% after 10 runs.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> dis hist

(FILE 'HOME' ENTERED AT 19:57:49 ON 09 OCT 2002)

FILE 'CAPLUS' ENTERED AT 19:58:09 ON 09 OCT 2002

L1 2369625 S OXID?
L2 169395 S L1 AND AQUEOUS
L3 24536 S L2 AND CATALYST
L4 67 S L3 AND NANOPARTICLE
L5 8 S L4 AND STABILIZ?
L6 3 S L5 AND ALCOHOL
L7 1 S L5 AND CARBOHYDRATE

=> s l5 and platinum

153377 PLATINUM

48 PLATINUMS

153387 PLATINUM

(PLATINUM OR PLATINUMS)

L8 2 L5 AND PLATINUM

=> dis l8 1-2 bib abs

L8 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS

AN 2002:90690 CAPLUS

DN 136:285000

TI Deposition of **Platinum Nanoparticles**, Synthesized in Water-in-Oil Microemulsions, on Alumina Supports

AU Ingelsten, Hanna Haerelind; Beziat, Jean-Christophe; Bergkvist, Kristina; Palmqvist, Anders; Skoglundh, Magnus; Hu, Qiuhong; Falk, Lena K. L.; Holmberg, Krister

CS Competence Centre for Catalysis, Department of Applied Surface Chemistry, Department of Applied Physics, and Department of Experimental Physics, Chalmers University of Technology, Goeteborg, SE-412 96, Swed.

SO Langmuir (2002), 18(5), 1811-1818 *date!*
CODEN: LANGD5; ISSN: 0743-7463

PB American Chemical Society

DT Journal

LA English

AB Pt **nanoparticles** were prep'd. in H₂O-in-oil microemulsions and deposited on .gamma.-alumina using 2 different methods. In the 1st method, the alumina support was added to the particle suspension and the microemulsion was subsequently destabilized by addn. of The, whereby the particles were deposited on the alumina support. In the other method, the Pt **nanoparticles** were transferred to an aq. soln. where they were redispersed by a **stabilizing** surfactant prior to addn. of the alumina support. The size of the microemulsion droplets and of the unsupported Pt particles was in the range of a few nanometers as measured by a dynamic light scattering technique (photon correlation spectroscopy). The size of the unsupported Pt **nanoparticles** and of the particles deposited on alumina was studied by TEM. Both methods for Pt particle deposition resulted in some degree of particle agglomeration, the 1st probably because of too-fast destabilization of the

microemulsion and the 2nd due to inefficient redispersion of the Pt particles when transferred to the **aq.** phase. All samples studied showed high catalytic activity for CO **oxidn.** by oxygen. The highest activity was found for those samples prepd. via the redispersion method where a relatively weak interaction was achieved between the redispersed Pt particles and the alumina.

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS

AN 2000:666737 CAPLUS

DN 133:254142

TI Catalytic method for modifying carbohydrates, alcohols, aldehydes or polyhydroxy compounds

IN Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf; Vorlop, Klaus-Dieter; Haji Begli, Alireza

PA Sudzucker Aktiengesellschaft, Germany *important*

SO PCT Int. Appl., 45 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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	W: AU, CA, IL, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19911504	A1	20001019	DE 1999-19911504	19990316
	EP 1165580	A1	20020102	EP 2000-925117	20000316
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 747812	B2	20020523	AU 2000-43953	20000316
PRAI	DE 1999-19911504	A	19990316		
	WO 2000-EP2351	W	20000316		
AB	Industrial conversion of the title compds. in aq. phase is carried out in the presence of metal catalysts consisting of polymer- stabilized nanoparticles . A catalyst of this type is not deactivated by the conversion reaction as long as the stabilizing interaction between the polymer and the nanoparticles is maintained. For example, activity of an Al2O3-supported, poly(vinylpyrrolidone)- stabilized Pt colloid catalyst (prepn. given) in oxidn. of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al2O3-supported Pt catalyst decreased to .apprx.35% after 10 runs.				

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s hydrogenation

150203 HYDROGENATION

1908 HYDROGENATIONS

L9 150451 HYDROGENATION

(HYDROGENATION OR HYDROGENATIONS)

=> s 19 and aqueous

148293 AQUEOUS

1 AQUEOUSES

148294 AQUEOUS

(AQUEOUS OR AQUEOUSES)

933909 AQ

119 AQS

933982 AQ

```

                (AQ OR AQS)
          968682 AQUEOUS
                (AQUEOUS OR AQ)
L10      14512 L9 AND AQUEOUS

=> s l10 and catalyst
        601917 CATALYST
        585163 CATALYSTS
        767433 CATALYST
                (CATALYST OR CATALYSTS)
L11      6442 L10 AND CATALYST

=> s l11 and metal
        1371087 METAL
        685692 METALS
        1661953 METAL
                (METAL OR METALS)
L12      1568 L11 AND METAL

=> s l12 and polymer (w). stabiliz?
        849461 POLYMER
        708926 POLYMERS
        1158743 POLYMER
                (POLYMER OR POLYMERS)
        354798 STABILIZ?
        3772 POLYMER (W) STABILIZ?
L13      3 L12 AND POLYMER (W) STABILIZ?

=> s l12 and polymer
        849461 POLYMER
        708926 POLYMERS
        1158743 POLYMER
                (POLYMER OR POLYMERS)
L14      89 L12 AND POLYMER

=> s l14 and nanoparticle
        11088 NANOPARTICLE
        17675 NANOPARTICLES
        18714 NANOPARTICLE
                (NANOPARTICLE OR NANOPARTICLES)
L15      5 L14 AND NANOPARTICLE

=> s l15 and aldehyde
        89500 ALDEHYDE
        84224 ALDEHYDES
        139257 ALDEHYDE
                (ALDEHYDE OR ALDEHYDES)
L16      0 L15 AND ALDEHYDE

=> s l15 and alcohol
        165042 ALCOHOL
        124445 ALCOHOLS
        270252 ALCOHOL
                (ALCOHOL OR ALCOHOLS)
        503294 ALC
        162712 ALCS
        587755 ALC
                (ALC OR ALCS)
        681787 ALCOHOL
                (ALCOHOL OR ALC)
L17      2 L15 AND ALCOHOL

=> dis l17 1-2 bib abs

```


L17 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS

AN 2001:65241 CAPLUS

DN 134:268058

TI Synthesis and functionalities of poly(N-vinylalkyloamide). XIII.
Temperature and pH dependence of the catalytic activity of colloidal
platinum **nanoparticles** stabilized by poly[(vinylamine)-co-(N-

AU Chen, Chun-Wei; Arai, Kumiko; Yamamoto, Kazuya; Serizawa, Takeshi; Akashi,
Mitsuru

CS Dep. Applied Chem. Chemical Eng., Kagoshima Univ., Kagoshima, 890-0065,
Japan

SO Macromolecular Chemistry and Physics (2000), 201(18), 2811-2819 *Article*
CODEN: MCHPES; ISSN: 1022-1352

PB Wiley-VCH Verlag GmbH

DT Journal

LA English

AB Colloidal platinum **nanoparticles** in the size range of 5-35 .ANG.
have been successfully prepd. in water at room temp. by NaBH₄ redn. of
ionic platinum in the presence of poly[(vinylamine)-co-(N-
vinylisobutyramide)] (PVAm-co-PNVIBA). The temp.- and pH-responsive
copolymer was used for the first time as the stabilizer of colloidal
metal particles. Three PVAm-co-PNVIBA copolymers with PVAm
contents of 4.1, 8.3, and 19.8 mol-% were examd. The particle size and
morphol. of the platinum colloids varied with the copolymer compn., as
confirmed by TEM measurements. The **polymer**-stabilized Pt
nanoparticles pptd. on heating above their crit. flocculation
temps. (CFTs), which were strongly dependent on the soln. pH and the
copolymer compn. The CFTs were 0.2-1.6.degree.C lower than the lower
crit. soln. temps. (LCSTs) of the copolymers free in water and the
differences increased with increasing PVAm content. The catalytic
activity of the Pt **nanoparticles** was investigated in the
aq. hydrogenation of allyl **alc.** It was found
that the activity was regulated through temp.- and pH-induced phase sepn.
The PVAm content also strongly effected the catalytic activity and the
morphol. of phase sepd. **catalysts**. With a PVAm content of 4.1
mol%, the colloidal platinum sol reversibly changed its catalytic activity
with changes in temp.

RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS

AN 2000:566746 CAPLUS

DN 134:117443

TI **Hydrogenation** of olefins in **aqueous** phase, catalyzed
by ligand/protected and **polymer**-protected rhodium colloids

AU Borsla, A.; Wilhelm, A. M.; Canselier, J. P.; Delmas, H.

CS Laboratoire de Genie Chimique-UMR CNRS 5503 (INPT/UPS) Ecole Nationale
Superieure d'Ingenieurs de Genie Chimique, Toulouse, 31078/4, Fr.

SO Studies in Surface Science and Catalysis (2000), 130C(International
Congress on Catalysis, 2000, Pt. C), 2093-2098
CODEN: SSCTDM; ISSN: 0167-2991

PB Elsevier Science B.V.

DT Journal

LA English

AB M-tri-sulfonated triphenylphosphine oxide as its sodium salt (OTPPTS) and
highly water sol. **polymers** such as poly(vinyl **alc.**)
(PVA) and poly(vinylpyrrolidone) (PVP) were used to stabilize colloidal
suspensions of active rhodium particles. The stabilized colloids were
used as **catalysts** in **hydrogenation** of oct-1-ene in a
two-liq. phase system. The effect of various parameters on the stability
and activity of the **metal nanoparticles** under more or
less severe conditions was studied. For OTPPTS-protected rhodium colloid
systems, the colloid stability improved by increasing the P/Rh molar
ratio. Lowering the pressure also improved stability, but led to lower

catalytic activity while temp. had no effect on stability but rather on the formation of the active species. The PVP(K15)-Rh colloids can be re-used more than one time at 50.degree. and 0.3 MPa without loss of activity, but not the PVP(K30)-Rh and PVA-Rh colloids. Recycling of the catalytic phase provided unchanged turnover frequencies. Suppression of co-solvent did not result in noticeable changes in activity, indicating that the reaction takes place at the interface. The MET micrographs of the catalytic phase of the OTPPTS-Rh system after use in **hydrogenation** shows 4 nm particles contg. rhodium oxide and metallic rhodium. IR spectroscopy anal. of the PVP-Rh colloids shows geminal and terminal Rh-CO species with a preponderance of the geminal ones.

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s l15 and carbohydrate
 108745 CARBOHYDRATE
 116172 CARBOHYDRATES
 176447 CARBOHYDRATE
 (CARBOHYDRATE OR CARBOHYDRATES)

L18 0 L15 AND CARBOHYDRATE

=> s l15 and fructose
 53219 FRUCTOSE
 82 FRUCTOSES
 53232 FRUCTOSE
 (FRUCTOSE OR FRUCTOSES)

L19 0 L15 AND FRUCTOSE

=> s reduction
 262772 REDUCTION
 5081 REDUCTIONS
 265419 REDUCTION
 (REDUCTION OR REDUCTIONS)
 742417 REDN
 39209 REDNS
 766916 REDN
 (REDN OR REDNS)

L20 891539 REDUCTION
 (REDUCTION OR REDN)

=> s l20 and catalyst
 601917 CATALYST
 585163 CATALYSTS
 767433 CATALYST
 (CATALYST OR CATALYSTS)

L21 68034 L20 AND CATALYST

=> s l21 and metal
 1371087 METAL
 685692 METALS
 1661953 METAL
 (METAL OR METALS)

L22 15952 L21 AND METAL

=> s l22 and nanoparticle
 11088 NANOPARTICLE
 17675 NANOPARTICLES
 18714 NANOPARTICLE
 (NANOPARTICLE OR NANOPARTICLES)

L23 129 L22 AND NANOPARTICLE

=> s l23 and polymer

849461 POLYMER
708926 POLYMERS
1158743 POLYMER
(POLYMER OR POLYMERS)
L24 36 L23 AND POLYMER

=> s l24 and aldehyde
89500 ALDEHYDE
84224 ALDEHYDES
139257 ALDEHYDE
(ALDEHYDE OR ALDEHYDES)
L25 0 L24 AND ALDEHYDE

=> s l24 and carbohydrate
108745 CARBOHYDRATE
116172 CARBOHYDRATES
176447 CARBOHYDRATE
(CARBOHYDRATE OR CARBOHYDRATES)
L26 0 L24 AND CARBOHYDRATE

=> s l24 and alcohol
165042 ALCOHOL
124445 ALCOHOLS
270252 ALCOHOL
(ALCOHOL OR ALCOHOLS)
503294 ALC
162712 ALCS
587755 ALC
(ALC OR ALCS)
681787 ALCOHOL
(ALCOHOL OR ALC)
L27 6 L24 AND ALCOHOL

=> dis l27 1-6 bib abs

L27 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 2001:65241 CAPLUS

DN 134:268058

TI Synthesis and functionalities of poly(N-vinylalkyloamide). XIII.
Temperature and pH dependence of the catalytic activity of colloidal
platinum **nanoparticles** stabilized by poly[(vinylamine)-co-(N-
vinylisobutyramide)]

AU Chen, Chun-Wei; Arai, Kumiko; Yamamoto, Kazuya; Serizawa, Takeshi; Akashi,
Mitsuru

CS Dep. Applied Chem. Chemical Eng., Kagoshima Univ., Kagoshima, 890-0065,
Japan

SO Macromolecular Chemistry and Physics (2000), 201(18), 2811-2819
CODEN: MCHPES; ISSN: 1022-1352

PB Wiley-VCH Verlag GmbH

DT Journal

LA English

AB Colloidal platinum **nanoparticles** in the size range of 5-35 .ANG.
have been successfully prep'd. in water at room temp. by NaBH₄ **redn**
. of ionic platinum in the presence of poly[(vinylamine)-co-(N-
vinylisobutyramide)] (PVAm-co-PNVIBA). The temp.- and pH-responsive
copolymer was used for the first time as the stabilizer of colloidal
metal particles. Three PVAm-co-PNVIBA copolymers with PVAm
contents of 4.1, 8.3, and 19.8 mol-% were exam'd. The particle size and
morphol. of the platinum colloids varied with the copolymer compn., as
confirmed by TEM measurements. The **polymer**-stabilized Pt
nanoparticles ppt'd. on heating above their crit. flocculation
temps. (CFTs), which were strongly dependent on the soln. pH and the
copolymer compn. The CFTs were 0.2-1.6.degree.C lower than the lower
crit. soln. temps. (LCSTs) of the copolymers free in water and the

differences increased with increasing PVAm content. The catalytic activity of the Pt **nanoparticles** was investigated in the aq. hydrogenation of allyl **alc.** It was found that the activity was regulated through temp.- and pH-induced phase sepn. The PVAm content also strongly effected the catalytic activity and the morphol. of phase sepd. **catalysts.** With a PVAm content of 4.1 mol%, the colloidal platinum sol reversibly changed its catalytic activity with changes in temp.

RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 2000:492945 CAPLUS

DN 133:95064

TI Preparation and catalysis of **polymer**-protected coinage **metal** nanoclusters

AU Shiraishi, Yukihide; Hirakawa, Kazutaka; Toshima, Naoki

CS Department of Materials Science and Engineering, Science University of Tokyo in Yamaguchi, Onoda-shi, Yamaguchi, 756-0884, Japan

SO Kobunshi Ronbunshu (2000), 57(6), 346-355

CODEN: KBRBA3; ISSN: 0386-2186

PB Kobunshi Gakkai

DT Journal

LA Japanese

AB Prepn., characterization and catalysis of **polymer**-protected coinage **metal** nanoclusters were investigated, esp. from the viewpoint of bimetalization. Poly (N-vinyl-2-pyrrolidone) (PVP)-protected Au/Rh bimetallic nanoclusters with an av. diam. of 2.6 nm were prepd. by **alc. redn.** of HAuCl₄ and RhCl in the presence of PVP. The Au/Rh bimetallic nanoclusters having an Au-core/Rh-shell structure work as more active **catalysts** for visible-light-induced hydrogen generation from water than the corresponding Au and Rh monometallic nanoclusters. Ag nanoclusters protected by poly(sodium acrylate) (PSA) were prepd. by UV irradiation of an **alc.**-water soln. of silver perchlorate in the presence of PSA and were applied to the **catalyst** for oxidation of ethylene. The activity of Ag nanoclusters thus prepd. remarkably increases with increasing the reaction temp. Addition of cesium and rhenium ions increases the catalytic activity of PSA-Ag nanoclusters as well. Thus, PSA plays an important role in this system. PVP-protected Cu/Pd alloy nanoclusters were prepd. by **redn.** in glycol at 198.degree.C, revealing high activity as a **catalyst** for hydration of acrylonitrile to acrylamide as well as for partial hydrogenation of 1,3-cyclooctadiene to cyclooctene.

L27 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 1999:745198 CAPLUS

DN 132:24789

TI **Polymer**-protected bimetallic nanocluster **catalysts** having core/shell structure for accelerated electron transfer in visible-light-induced hydrogen generation

AU Toshima, Naoki; Hirakawa, Kazutaka

CS Department of Materials Science and Engineering, Science University of Tokyo in Yamaguchi, Onoda, 756-0884, Japan

SO Polymer Journal (Tokyo) (1999), 31(11-2), 1127-1132

CODEN: POLJB8; ISSN: 0032-3896

PB Society of Polymer Science, Japan

DT Journal

LA English

AB A visible-light-induced electron transfer system was constructed by using tris(bipyridine)ruthenium(III), Me viologen, EDTA and colloidal **metal** nanocluster as photosensitizer, electron relay, sacrificial electron donor and reductive **catalyst**, resp. **Polymer**-protected Au, Pt, Pd, Rh and Ru monometallic, and Au/Pt, Au/Pd, Au/Rh and

Pt/Ru bimetallic nanocluster **catalysts** were prepd. as colloidal dispersions by **alc.-redn.**, and applied to the **catalysts** for the above reaction. The rate of electron transfer from Me viologen cation radical to the **metal** nanocluster **catalyst** is proportional to the hydrogen generation rate at a steady state. All the electrons accepted by **metal** nanocluster **catalysts** are used for the hydrogen generation. Both electron transfer and hydrogen generation rates increase when the colloidal dispersions of bimetallic nanoclusters are used in place of the corresponding monometallic nanoclusters. An Au-core/Rh-shell structure has been suggested by UV-Vis spectrum measurement for Au/Rh bimetallic nanoclusters.

RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 1999:529466 CAPLUS

DN 131:162019

TI Immobilization of palladium **nanoparticles** on latex supports and their potential for catalytic applications

AU Mayer, Andrea B. R.; Mark, James E.

CS Department Chemistry, Univ. Cincinnati, Cincinnati, OH, 45221, USA ✓

SO Angewandte Makromolekulare Chemie (1999), 268, 52-58

CODEN: ANMCBO; ISSN: 0003-3146

PB Wiley-VCH Verlag GmbH

DT Journal

LA English

AB Pd **nanoparticles** were reduced in the presence of several latex dispersions possessing different hydrophobicities. Various **redn** . methods were investigated, specifically the slower methods of refluxing the **alc.** soln. and the more rapid **redn.** by potassium tetrahydridoborate. In several cases the latexes showed the ability to adsorb and immobilize the Pd **nanoparticles** on their surface. Transmission electron microscopy was employed to show the immobilization of the **metal nanoparticles** on the latex surfaces, and their nanosize dimensions. The latex-metal dispersions showed catalytic activity for the hydrogenation of cyclohexene as a model reaction. A selection of water-sol. protective **polymers** was included to explore whether the **metal nanoparticles** were still immobilized. In the case of the more hydrophobic latexes, the accumulation and immobilization of the **metal nanoparticles** was preserved both before and after their use as hydrogenation **catalysts**.

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 1999:150983 CAPLUS

DN 130:257756

TI Homogeneous hydrogenation catalysis with monodisperse, dendrimer-encapsulated Pd and Pt **nanoparticles**

AU Zhao, Mingqi; Crooks, Richard M.

CS Department of Chemistry, Texas A and M University, College Station, TX, 77842-3012, USA

SO Angewandte Chemie, International Edition (1999), 38(3), 364-366 ✓ Q.D1.251

CODEN: ACIEF5; ISSN: 1433-7851

PB Wiley-VCH Verlag GmbH

DT Journal

LA English

AB In this report we show that composite materials that consist of noble **metal nanoparticles** stabilized within dendrimer interiors are suitable for use as homogeneous hydrogenation **catalysts**. These interesting new materials are prepd. by sorbing PdII or PtII ions into hydroxyl-terminated poly(amidoamine) (PAMAM)

dendrimers (Gn-OH, where Gn represents the nth generation) where they complex with interior amine groups. Subsequent chem. **redn.** of the **metal** ions with BH₄⁻ yields dendrimer-encapsulated **metal nanoparticles** that contain the same no. of atoms as were preloaded into the dendrimer initially. The resulting composites are sol. in water and stable, either dry or solvated, for at least several months. Thus, the dendrimer acts as both a template for the prepn. of monodisperse **nanoparticles** and a porous stabilizer. Dendrimer-encapsulated Pd clusters exhibit high catalytic activity for the hydrogenation of alkenes in water. Importantly, the catalytic activity can be controlled by adjusting the size (generation) of the dendrimer; i.e., the dendrimer acts as a "nanofilter" with a synthetically controllable mesh.

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 1997:274467 CAPLUS

DN 126:318654

TI Platinum nanocatalysts immobilized on latex supports

AU Mayer, Andrea B. R.; Mark, James E.

CS Dep. Chem. and Polymer Res. Center, Univ. Cincinnati, Cincinnati, OH, 54221-0172, USA

SO Journal of Polymer Science, Part B: Polymer Physics (1997), 35(8), 1207-1216

CODEN: JPBPEM; ISSN: 0887-6266

PB Wiley

DT Journal

LA English

AB Several latex dispersions of different hydrophobicity were investigated with respect to their ability to adsorb platinum **nanoparticles** that had been reduced in their presence. Two **redn.** methods were tested, specifically the slower method of refluxing the **alc.** solns. and the more rapid method of reaction with KBH₄. The immobilization of the **metal** particles and their nanosize dimensions were demonstrated by transmission electron microscopy and their catalytic activity was tested by the hydrogenation of cyclohexene as a model reaction. Some addnl. immobilized platinum **nanoparticles** were prepd. in the presence of various protective **polymers**. This can lead to various advantages with respect to, for instance, the stability and the catalytic properties of these materials. Even in the presence of such addnl. protective **polymers**, the platinum **nanoparticles** remained immobilized for some of the hydrophobic latexes both before and after catalytic hydrogenations.

=> dis hist

(FILE 'HOME' ENTERED AT 19:57:49 ON 09 OCT 2002)

FILE 'CAPLUS' ENTERED AT 19:58:09 ON 09 OCT 2002

L1 2369625 S OXID?
L2 169395 S L1 AND AQUEOUS
L3 24536 S L2 AND CATALYST
L4 67 S L3 AND NANOPARTICLE
L5 8 S L4 AND STABILIZ?
L6 3 S L5 AND ALCOHOL
L7 1 S L5 AND CARBOHYDRATE
L8 2 S L5 AND PLATINUM
L9 150451 S HYDROGENATION
L10 14512 S L9 AND AQUEOUS
L11 6442 S L10 AND CATALYST
L12 1568 S L11 AND METAL
L13 3 S L12 AND POLYMER (W) STABILIZ?

L14	89	S	L12	AND	POLYMER
L15	5	S	L14	AND	NANOPARTICLE
L16	0	S	L15	AND	ALDEHYDE
L17	2	S	L15	AND	ALCOHOL
L18	0	S	L15	AND	CARBOHYDRATE
L19	0	S	L15	AND	FRUCTOSE
L20	891539	S			REDUCTION
L21	68034	S	L20	AND	CATALYST
L22	15952	S	L21	AND	METAL
L23	129	S	L22	AND	NANOPARTICLE
L24	36	S	L23	AND	POLYMER
L25	0	S	L24	AND	ALDEHYDE
L26	0	S	L24	AND	CARBOHYDRATE
L27	6	S	L24	AND	ALCOHOL

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NEWS	5	Apr 19	US Patent Applications available in IFICDB, IFIPAT, and IFIUDb
NEWS	6	Apr 22	Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS	7	Apr 22	BIOSIS Gene Names now available in TOXCENTER
NEWS	8	Apr 22	Federal Research in Progress (FEDRIP) now available
NEWS	9	Jun 03	New e-mail delivery for search results now available
NEWS	10	Jun 10	MEDLINE Reload
NEWS	11	Jun 10	PCTFULL has been reloaded
NEWS	12	Jul 02	FOREGE no longer contains STANDARDS file segment
NEWS	13	Jul 22	USAN to be reloaded July 28, 2002; saved answer sets no longer valid
NEWS	14	Jul 29	Enhanced polymer searching in REGISTRY
NEWS	15	Jul 30	NETFIRST to be removed from STN
NEWS	16	Aug 08	CANCERLIT reload
NEWS	17	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS	18	Aug 08	NTIS has been reloaded and enhanced
NEWS	19	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS	20	Aug 19	IFIPAT, IFICDB, and IFIUDb have been reloaded
NEWS	21	Aug 19	The MEDLINE file segment of TOXCENTER has been reloaded
NEWS	22	Aug 26	Sequence searching in REGISTRY enhanced
NEWS	23	Sep 03	JAPIO has been reloaded and enhanced
NEWS	24	Sep 16	Experimental properties added to the REGISTRY file
NEWS	25	Sep 16	Indexing added to some pre-1967 records in CA/CAPLUS
NEWS	26	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS	27	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS EXPRESS			February 1 CURRENT WINDOWS VERSION IS V6.0d, CURRENT MACINTOSH VERSION IS V6.0a(ENG) AND V6.0Ja(JP), AND CURRENT DISCOVER FILE IS DATED 05 FEBRUARY 2002
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=> s amination

24906 AMINATION

249 AMINATIONS

L1 24959 AMINATION

(AMINATION OR AMINATIONS)

=> s l1 and reductive

49778 REDUCTIVE

4 REDUCTIVES

49782 REDUCTIVE

(REDUCTIVE OR REDUCTIVES)

L2 4959 L1 AND REDUCTIVE

=> s l2 and catalyst

601917 CATALYST

585163 CATALYSTS

767433 CATALYST

(CATALYST OR CATALYSTS)

L3 964 L2 AND CATALYST

=> s l3 and metal

1371087 METAL

685692 METALS

1661953 METAL

(METAL OR METALS)

L4 209 L3 AND METAL

=> s 14 and alcohol
 165042 ALCOHOL
 124445 ALCOHOLS
 270252 ALCOHOL
 (ALCOHOL OR ALCOHOLS)
 503294 ALC
 162712 ALCS
 587755 ALC
 (ALC OR ALCS)
 681787 ALCOHOL
 (ALCOHOL OR ALC)
 L5 38 L4 AND ALCOHOL

=> s 15 and aqueous
 148293 AQUEOUS
 1 AQUEOUSES
 148294 AQUEOUS
 (AQUEOUS OR AQUEOUSES)
 933909 AQ
 119 AQS
 933982 AQ
 (AQ OR AQS)
 968682 AQUEOUS
 (AQUEOUS OR AQ)
 L6 7 L5 AND AQUEOUS

=> dis 16 1-7 bib abs

L6 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2002 ACS
 AN 2002:378142 CAPLUS
 DN 137:93568
 TI Synthesis of Primary Amines: First Homogeneously Catalyzed
Reductive Amination with Ammonia
 AU Gross, Thoralf; Seayad, Abdul Majeed; Ahmad, Moballigh; Beller, Matthias
 CS Institut fuer Organische Katalyseforschung, Universitaet Rostock e.V.,
 Rostock, D-18055, Germany
 SO Organic Letters (2002), 4(12), 2055-2058
 CODEN: ORLEF7; ISSN: 1523-7060
 PB American Chemical Society
 DT Journal
 LA English
 AB The synthesis of primary amines via **reductive amination**
 of the corresponding carbonyl compds. with **aq.** ammonia is
 achieved for the first time with sol. transition **metal**
 complexes. Up to an 86% yield and a 97% selectivity for benzylamines were
 obtained in the case of various benzaldehydes by using a Rh-
catalyst together with water-sol. phosphine and ammonium acetate.
 In the case of aliph. aldehydes, a bimetallic **catalyst** based on
 Rh/Ir gave improved results.
 RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2002 ACS
 AN 2001:122109 CAPLUS
 DN 134:281120
 TI .alpha.-Ketocarbonyl Peptides: A General Approach to Reactive Resin-Bound
 Intermediates in the Synthesis of Peptide Isosteres for Protease Inhibitor
 Screening on Solid Support
 AU Papanikos, Alexandra; Rademann, Jorg; Meldal, Morten
 CS Department of Chemistry, Carlsberg Research Center, Valby, DK-2500, Den.
 SO Journal of the American Chemical Society (2001), 123(10), 2176-2181
 CODEN: JACSAT; ISSN: 0002-7863
 PB American Chemical Society

DT Journal
 LA English
 OS CASREACT 134:281120
 AB .alpha.-Ketocarbonyl peptides were generated from peptide precursors on solid support via a **metal**-ion-catalyzed transamination. The reaction proceeded to completion within 2 h with glyoxylate as electrophile and copper(II) ions as **catalyst** in an **aq.** acetate buffer at pH 5.5-6.0. The variety of naturally occurring .alpha.-amino acid substrates gave rise to a diverse set of differentially functionalized ketones. The highly reactive terminal keto-carbonyls were prone to aldol-type dimerization and could be transferred into stable moieties by oxime formation, redn. to the **alc.**, or **reductive amination**, resp. The .alpha.-keto-carbonyl peptides were efficient in nucleophilic addn. of C-nucleophiles such as phosphono-ylides and allylsilanes.

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2002 ACS
 AN 2000:666737 CAPLUS
 DN 133:254142
 TI Catalytic method for modifying carbohydrates, **alcohols**, aldehydes or polyhydroxy compounds
 IN Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf; Vorlop, Klaus-Dieter; Haji Begli, Alireza
 PA Sudzucker Aktiengesellschaft, Germany *Investment*
 SO PCT Int. Appl., 45 pp.
 CODEN: PIXXD2

DT Patent
 LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
	W: AU, CA, IL, US RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19911504	A1	20001019	DE 1999-19911504	19990316
	EP 1165580	A1	20020102	EP 2000-925117	20000316
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 747812	B2	20020523	AU 2000-43953	20000316
PRAI	DE 1999-19911504	A	19990316		
	WO 2000-EP2351	W	20000316		

AB Industrial conversion of the title compds. in **aq.** phase is carried out in the presence of **metal catalysts** consisting of polymer-stabilized nanoparticles. A **catalyst** of this type is not deactivated by the conversion reaction as long as the stabilizing interaction between the polymer and the nanoparticles is maintained. For example, activity of an Al₂O₃-supported, poly(vinylpyrrolidone)-stabilized Pt colloid **catalyst** (prepn. given) in oxidn. of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al₂O₃-supported Pt **catalyst** decreased to .apprx.35% after 10 runs.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2002 ACS
 AN 1998:693414 CAPLUS
 DN 129:275633
 TI **Metal catalysts** and preparation of the **catalysts** and (N-substituted) amines
 IN Muraishi, Teruo; Kato, Kozo
 PA Mitsui Chemicals Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10287628	A2	19981027	JP 1997-89526	19970408
AB	(N-substituted) amines are prepd. by treatment of NH ₃ , primary amines, or secondary amines with (i) alcs. or (ii) aldehydes and H in the presence of catalysts prepd. by redn. of malachite- and Al(OH) ₃ -free precursors contg. Cu, Al, and Cr, Mn, Fe, Co, Ni, and/or Zn. Aq. soln. contg. Cu(NO ₃) ₂ , Ni(NO ₃) ₂ , and Al(NO ₃) ₃ was treated with aq. Na ₂ CO ₃ to give hydrotalcite-like substance, which was reduced in lauryl alc. NHMe ₂ and H were passed through the catalyst -contg. reactor at 200.degree. over 10 h to give colorless products contg. 91.8% lauryldimethylamine.				

L6 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2002 ACS

AN 1995:401307 CAPLUS

DN 122:160152

TI Process for producing amines by **reductive amination** in the presence of a cobalt **catalyst**.

IN Furutani, Atsushi; Hibi, Takuo; Yamamoto, Michio; Tanaka, Kazuyuki; Tada, Kazuhiro; Fukao, Masami; Suzukamo, Gohfu

PA Sumitomo Chemical Co., Ltd., Japan

SO Eur. Pat. Appl., 13 pp.

CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 623585	A1	19941109	EP 1994-300903	19940208
	EP 623585	B1	19980422		
	R: BE, DE, FR, GB				
	JP 07101910	A2	19950418	JP 1994-6466	19940125
	CA 2115024	AA	19941028	CA 1994-2115024	19940204
	US 5589596	A	19961231	US 1994-194328	19940208
PRAI	JP 1993-101074		19930427		
	JP 1993-180248		19930721		
	JP 1993-180249		19930721		
	JP 1993-196041		19930806		
	JP 1993-197339		19930809		

OS CASREACT 122:160152

AB A process is disclosed for producing amines by **reductive amination** of cyclic ketones or their imino derivs., characterized by use of a cobalt **catalyst** contg. an alk. earth **metal** carbonate and/or lanthanum oxide. The new **catalysts** give high yields, are highly active, and are usable on a com. scale. For example, an **aq.** soln. of Co and Cu nitrates was treated with Ca carbonate, heated to 80.degree., and treated with **aq.** Na carbonate to give a ppt., which was retreated with **aq.** Na carbonate, dried, heated in N at 320.degree., cooled, granulated, and hydrogenated at 280.degree. to give a **catalyst**. 3-Cyano-3,5,5-trimethylcyclohexanone was then passed with MeOH and liq. NH₃ through a first reactor contg. active C at 24.degree. and 150 kg/cm²G to give the imine deriv. in 97.7% yield. This was passed through the above **catalyst** in a second reactor at 121.degree. and the same pressure to give 3-aminomethyl-3,5,5-trimethylcyclohexylamine (I) in 99.4% yield, plus minor amts. of 2 byproducts. A comparison **catalyst** without the Cu nitrate or the Ca carbonate gave only 90.7% yield of I in the second step, with 5.8% 3-aminomethyl-3,5,5-trimethylcyclohexyl **alc.** and 3.2% 1,3,3-trimethyl-6-azabicyclo[3.2.1]octane as

byproducts.

L6 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2002 ACS
AN 1993:603755 CAPLUS
DN 119:203755
TI Process for the production of aminopolyols
IN Beck, Roland Herwig; Kalff, Norbert Johannes; Roeper, Harald W. W.
PA Cerestar Holding BV, Neth.
SO Eur. Pat. Appl., 7 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	EP 536939	A1	19930414	EP 1992-308919	19920930
	EP 536939	B1	19960320		
	EP 536939	B2	19990310		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, NL, PT, SE				
	AT 135680	E	19960415	AT 1992-308919	19920930
	ES 2084947	T3	19960516	ES 1992-308919	19920930
PRAI	GB 1991-21279		19911008		

OS CASREACT 119:203755

AB The title process comprises reacting a monosaccharide or a reducing oligosaccharide with NH₃ or an aliph. amine having a replaceable amino hydrogen atom in the presence of H₂ and a base **metal catalyst** and is characterized by the addn. to the reaction medium of a compd. which, under the reaction conditions is capable of providing NH₄⁺ in the reaction medium and is not, or does not give rise to, a poison for the base **metal catalyst**. Thus, a mixt. of **aq.** glucose and NH₄OAc was hydrogenated over Raney Co with the addn. of liquefied NH₃ at 5 to 100 bar and -40 to 95.degree. to give 83.4 wt.% 1-aminosorbitol, 3.1 wt.% 2-aminosorbitol, 3.5 wt.% 2-aminomannitol, 2.2 wt.% sorbitol, and 2.6 wt.% disorbitylamine.

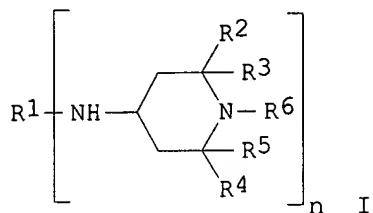
L6 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2002 ACS
AN 1987:5981 CAPLUS
DN 106:5981
TI 2,2,6,6-Tetraalkyl-4-piperidylamines
IN Malz, Russell E., Jr.; Greenfield, Harold
PA Uniroyal Chemical Co., Inc., USA
SO U.S., 5 pp.
CODEN: USXXAM

DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	US 4607104	A	19860819	US 1985-754378	19850711
	IN 171623	A	19921128	IN 1986-DE494	19860604
	ZA 8604298	A	19870225	ZA 1986-4298	19860609
	BR 8602855	A	19870317	BR 1986-2855	19860619
	EP 208455	A1	19870114	EP 1986-304837	19860624
	EP 208455	B1	19910130		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	AT 60583	E	19910215	AT 1986-304837	19860624
	CA 1283108	A1	19910416	CA 1986-513288	19860708
	CN 86104693	A	19870225	CN 1986-104693	19860709
	CN 1005976	B	19891206		
	AU 8660042	A1	19870115	AU 1986-60042	19860710
	AU 589196	B2	19891005		
	JP 62030757	A2	19870209	JP 1986-162917	19860710
	JP 05002669	B4	19930113		
	ES 2000661	A6	19880316	ES 1986-246	19860711

PRAI US 1985-754378 19850711
 EP 1986-304837 19860624
 OS CASREACT 106:5981
 GI



AB The title compds. I (R1 = C1-18 alkyl, C5-6 cycloalkyl, C7-9 aralkyl; R2-5 = C1-8 alkyl; R6 = H, OH, C1-8 alkyl, alkoxy, C2-10 alkylcarbonyl, arylcarbonyl; n = 1-4), useful as UV stabilizers, are prepd. by **reductive amination** over pyrophoric **catalysts** (Pt, Ni or Co) with reduced fire hazard by using H2O or **aq.** **alcs.** as solvents. Thus, 34.8 g H2N(CH2)6NH2, 97.65 g 2,2,6,6-tetramethyl-4-piperidone, 120 mL water, and 1.5 g 5% Pt/C were heated at 80.degree./600-800 psig with H to give 89% N,N'-bis(2,2,6,6-tetramethyl-4-piperidyl)hexamethylenediamine , vs. 93% with MeOH instead of H2O.

=> s l6 and promoter
 126112 PROMOTER
 43463 PROMOTERS
 143397 PROMOTER
 (PROMOTER OR PROMOTERS)
 L7 0 L6 AND PROMOTER

=> dis hist

(FILE 'HOME' ENTERED AT 20:13:40 ON 09 OCT 2002)

FILE 'CAPLUS' ENTERED AT 20:13:50 ON 09 OCT 2002

L1 24959 S AMINATION
 L2 4959 S L1 AND REDUCTIVE
 L3 964 S L2 AND CATALYST
 L4 209 S L3 AND METAL
 L5 38 S L4 AND ALCOHOL
 L6 7 S L5 AND AQUEOUS
 L7 0 S L6 AND PROMOTER

=> s l4 and aldehyde
 89500 ALDEHYDE
 84224 ALDEHYDES
 139257 ALDEHYDE
 (ALDEHYDE OR ALDEHYDES)
 L8 35 L4 AND ALDEHYDE

=> s l8 and aqueous
 148293 AQUEOUS
 1 AQUEOUSES
 148294 AQUEOUS
 (AQUEOUS OR AQUEOUSES)
 933909 AQ
 119 AQS
 933982 AQ

(AQ OR AQS)
968682 AQUEOUS
(AQUEOUS OR AQ)

L9 6 L8 AND AQUEOUS

=> dis 19 1-9 bib abs

L9 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2002 ACS
AN 2002:378142 CAPLUS
DN 137:93568
TI Synthesis of Primary Amines: First Homogeneously Catalyzed
Reductive Amination with Ammonia
AU Gross, Thoralf; Seayad, Abdul Majeed; Ahmad, Moballigh; Beller, Matthias
CS Institut fuer Organische Katalyseforschung, Universitaet Rostock e.V.,
Rostock, D-18055, Germany
SO Organic Letters (2002), 4(12), 2055-2058 *date - not good*
CODEN: ORLEF7; ISSN: 1523-7060
PB American Chemical Society
DT Journal
LA English
AB The synthesis of primary amines via **reductive amination**
of the corresponding carbonyl compds. with **aq.** ammonia is
achieved for the first time with sol. transition **metal**
complexes. Up to an 86% yield and a 97% selectivity for benzylamines were
obtained in the case of various benzaldehydes by using a Rh-
catalyst together with water-sol. phosphine and ammonium acetate.
In the case of aliph. **aldehydes**, a bimetallic **catalyst**
based on Rh/Ir gave improved results.
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2002 ACS
AN 2000:666737 CAPLUS
DN 133:254142
TI Catalytic method for modifying carbohydrates, alcohols, **aldehydes**
or polyhydroxy compounds
IN Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf; Vorlop, Klaus-Dieter;
Haji Begli, Alireza
PA Sudzucker Aktiengesellschaft, Germany *instant*
SO PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DT Patent
LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
	W: AU, CA, IL, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19911504	A1	20001019	DE 1999-19911504	19990316
	EP 1165580	A1	20020102	EP 2000-925117	20000316
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 747812	B2	20020523	AU 2000-43953	20000316
PRAI	DE 1999-19911504	A	19990316		
	WO 2000-EP2351	W	20000316		

AB Industrial conversion of the title compds. in **aq.** phase is
carried out in the presence of **metal catalysts**
consisting of polymer-stabilized nanoparticles. A **catalyst** of
this type is not deactivated by the conversion reaction as long as the
stabilizing interaction between the polymer and the nanoparticles is
maintained. For example, activity of an Al2O3-supported,
poly(vinylpyrrolidone)-stabilized Pt colloid **catalyst** (prepn.

given) in oxidn. of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al₂O₃-supported Pt **catalyst** decreased to .apprx.35% after 10 runs.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 1998:693414 CAPLUS

DN 129:275633

TI **Metal catalysts** and preparation of the **catalysts** and (N-substituted) amines

IN Muraishi, Teruo; Kato, Kozo

PA Mitsui Chemicals Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 10287628	A2	19981027	JP 1997-89526	19970408
AB	(N-substituted) amines are prepd. by treatment of NH ₃ , primary amines, or secondary amines with (i) alcs. or (ii) aldehydes and H in the presence of catalysts prepd. by redn. of malachite- and Al(OH) ₃ -free precursors contg. Cu, Al, and Cr, Mn, Fe, Co, Ni, and/or Zn. Aq. soln. contg. Cu(NO ₃) ₂ , Ni(NO ₃) ₂ , and Al(NO ₃) ₃ was treated with aq. Na ₂ CO ₃ to give hydrotalcite-like substance, which was reduced in lauryl alc. NHMe ₂ and H were passed through the catalyst -contg. reactor at 200.degree. over 10 h to give colorless products contg. 91.8% lauryldimethylamine.				

L9 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 1991:535511 CAPLUS

DN 115:135511

TI Process for the preparation of N,N-dimethylamines

IN Kampmann, Detlef; Kniep, Claus; Lukas, Rainer

PA Hoechst A.-G., Germany

SO Ger. Offen., 6 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3942793	A1	19910627	DE 1989-3942793	19891223
	EP 435072	A2	19910703	EP 1990-123912	19901212
	EP 435072	A3	19920304		
	EP 435072	B1	19940427		
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
	AT 104950	E	19940515	AT 1990-123912	19901212
	ES 2055855	T3	19940901	ES 1990-123912	19901212
	CA 2032362	AA	19910624	CA 1990-2032362	19901214
	JP 06219993	A2	19940809	JP 1990-402867	19901217
	JP 07072159	B4	19950802		
	AU 9068373	A1	19910627	AU 1990-68373	19901221
	AU 634007	B2	19930211		
PRAI	DE 1989-3942793		19891223		
	EP 1990-123912		19901212		
AB	The continuous prepn. of N,N-dimethylamines by the reaction of aldehydes with Me ₂ NH and hydrogen under pressure at high temp. in the presence of Ni, Co, Cu, Mn, Fe, Rh, Pd and/or Pt-contg. hydrogenation catalysts is claimed. After remaining starting material (Me ₂ NH) and hydrogen are removed, 0.1-25% by wt. HCHO or HCHO-forming substance are added and the mixt. is distd. This process permits nearly complete				

removal of secondary N-methylamines which are formed as by products. A reactor contg. 300 mL **catalyst** RCH Ni52/35 (tablets; Ni **catalyst** on kieselguhr) was filled with Me2NBu and then charged with PrCHO (65 mL) and Me2NH (200 mL) at 105-110.degree. and 8 MPa and hydrogen was charged at 34 L/h; remaining hydrogen and Me2NH were removed and during the subsequent distn. 37% **aq.** HCHO (.apprx.3% with respect to Me2NBu) was fed into the crude product mixt. at the bottom of the column. The distillate contained 99.65% by wt. Me2NBu and 0.02% by wt. MeNHBu. Omission of feed of **aq.** HCHO gave a distillate contg. 98.09% by wt. Me2NBu and 1.22% by wt. MeNHBu.

L9 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 1982:616038 CAPLUS

DN 97:216038

TI Araliphatic **aldehydes** and/or amines

IN Gramlich, Walter; Heilen, Gerd; Mercker, Hans Jochen; Siegel, Hardo

PA BASF A.-G. , Fed. Rep. Ger.

SO Ger. Offen., 13 pp.

CODEN: GWXXBX

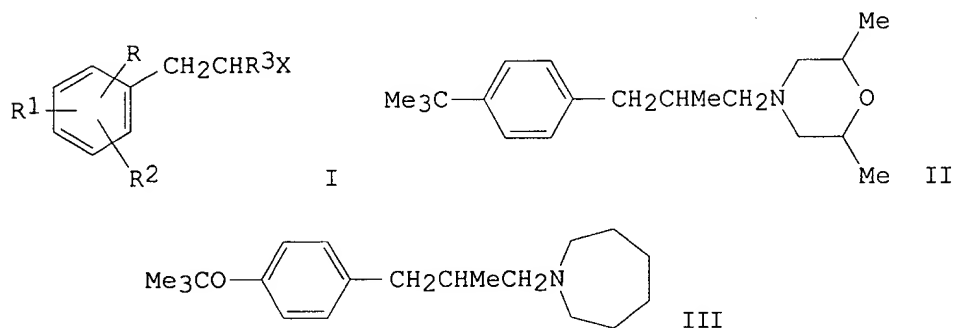
DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3105446	A1	19820902	DE 1981-3105446	19810214
	EP 58326	A1	19820825	EP 1982-100670	19820130
	EP 58326	B1	19840606		
	R: CH, DE, FR, GB, NL				
	JP 57163334	A2	19821007	JP 1982-19006	19820210
PRAI	DE 1981-3105446		19810214		

GI



AB I (R, R1, R2 = H, C1-8 alkyl, C4-7 cycloalkyl, C1-5 alkoxy, OH, tertiary amino, etc.; R3 = H, C1-10 alkyl, etc.; X = CHO or NR4R5; R4, R5 = C1-10 alkyl or R4R5N = 5-7-membered heterocycle) were prepd. by aldol condensation and hydrogenation or **reductive amination**. Thus, 4-Me3CC6H4CHO, EtCHO, MeOH, and **aq.** NaOH first at 30-40.degree. under N, then at 110.degree. under 2 bar H (**metal oxide catalyst**) gave 4-Me3CC6H4CH2CHMeCHO. Similarly, but with morpholine or hexamethylenimine present in the 2nd step, the reaction gave II or III.

L9 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2002 ACS

AN 1982:199072 CAPLUS

DN 96:199072

TI N-Alkylalkylenediamines

IN Tahara, Susumu; Nishihira, Keigo; Miyatake, Takashi; Sawada, Hiroyuki;

Kita, Junichiro

PA Ube Industries, Ltd. , Japan
SO Ger. Offen., 13 pp.
CODEN: GWXXBX
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3128810	A1	19820318	DE 1981-3128810	19810721
	JP 57035545	A2	19820226	JP 1980-111590	19800813
	JP 60033423	B4	19850802		
	US 4373107	A	19830208	US 1981-286030	19810722
	GB 2082172	A	19820303	GB 1981-22958	19810724
	GB 2082172	B2	19840510		
PRAI	JP 1980-111590		19800813		

AB N-Alkylalkylenediamines were prepd. by gradual addn. of an aliph. **aldehyde** to an alkylenediamine in an org. solvent over a Pt group **metal** in an atm. of H under pressure. Thus, a mixt. of 37 g 90% **aq.** AcH and 100 mL MeOH was added over 8 h to 45 g H₂NCH₂CH₂NH₂ (I), 2 g 5% Pd-C, and 100 mL MeOH in a 0.5 L autoclave at 100.degree./7 bar H overpressure, and the mixt. heated as above 4 h to give 40.9% conversion of I with 78.9% selectivity to EtNHCH₂CH₂NH₂. not assigned

=> s 14 and carbohydrate
108745 CARBOHYDRATE
116172 CARBOHYDRATES
176447 CARBOHYDRATE
(CARBOHYDRATE OR CARBOHYDRATES)
L10 2 L4 AND CARBOHYDRATE

=> dis l10 1-2 bib abs

L10 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2002 ACS
AN 2000:666737 CAPLUS
DN 133:254142
TI Catalytic method for modifying **carbohydrates**, alcohols, aldehydes or polyhydroxy compounds
IN Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf; Vörlop, Klaus-Dieter; Haji Begli, Alireza
PA Sudzucker Aktiengesellschaft, Germany
SO PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
	W: AU, CA, IL, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19911504	A1	20001019	DE 1999-19911504	19990316
	EP 1165580	A1	20020102	EP 2000-925117	20000316
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 747812	B2	20020523	AU 2000-43953	20000316
PRAI	DE 1999-19911504	A	19990316		
	WO 2000-EP2351	W	20000316		

AB Industrial conversion of the title compds. in aq. phase is carried out in the presence of **metal catalysts** consisting of polymer-stabilized nanoparticles. A **catalyst** of this type is not deactivated by the conversion reaction as long as the stabilizing interaction between the polymer and the nanoparticles is maintained. For

example, activity of an Al₂O₃-supported, poly(vinylpyrrolidone)-stabilized Pt colloid **catalyst** (prepn. given) in oxidn. of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al₂O₃-supported Pt **catalyst** decreased to .apprx.35% after 10 runs.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2002 ACS

AN 1997:530000 CAPLUS

DN 127:150351

TI **Metal-catalyzed oxidation and reduction of carbohydrates**

AU Abbadi, A.; Van Bekkum, H.

CS Laboratory of Organic Chemistry and Catalysis, Delft University of Technology, Delft, 2628 BL, Neth.

SO Carbohydrates as Organic Raw Materials III, developed from a Workshop, Wageningen, Nov. 28-29, 1994 (1996), Meeting Date 1994, 37-65. Editor(s): Van Bekkum, Herman; Roeper, Harald; Voragen, Fons. Publisher: VCH, Weinheim, Germany.

CODEN: 64UXAZ

DT Conference; General Review

LA English

AB A review with 210 refs. on **metal-catalyzed oxidn.** and hydrogenation of **carbohydrates** is presented. Bi-promoted Pd is presently the **catalyst** of choice for the oxidn. of aldoses to aldonic acids. Selective oxidn. at C-2 of aldonic acids to 2-keto acids can be achieved by applying similarly promoted Pt in weakly acidic medium. The noble **metal-catalyzed oxidn.** of primary alc. groups still needs improvement; best results are obtained in a continuous process using supported Pt and operating at low O concn. Carbonyl group hydrogenation is generally performed over Ni **catalysts**, but Ru **catalysts** are also used. Mainly Ni and Pt **catalysts** are applied for **reductive amination** of **carbohydrates**. Finally, **carbohydrate** hydrogenolysis under severe conditions to give glycerol and 1,2-propanediol is discussed.

=> dis hist

(FILE 'HOME' ENTERED AT 20:13:40 ON 09 OCT 2002)

FILE 'CAPLUS' ENTERED AT 20:13:50 ON 09 OCT 2002

L1 24959 S AMINATION
L2 4959 S L1 AND REDUCTIVE
L3 964 S L2 AND CATALYST
L4 209 S L3 AND METAL
L5 38 S L4 AND ALCOHOL
L6 7 S L5 AND AQUEOUS
L7 0 S L6 AND PROMOTER
L8 35 S L4 AND ALDEHYDE
L9 6 S L8 AND AQUEOUS
L10 2 S L4 AND CARBOHYDRATE

=> s l6 and electrodialysis

9460 ELECTRODIALYSIS

17 ELECTRODIALYSES

9465 ELECTRODIALYSIS

(ELECTRODIALYSIS OR ELECTRODIALYSES)

L11 0 L6 AND ELECTRODIALYSIS

=> s l9 and electrodialysis

9460 ELECTRODIALYSIS

17 ELECTRODIALYSES

9465 ELECTRODIALYSIS

(ELECTRODIALYSIS OR ELECTRODIALYSES)

L12 0 L9 AND ELECTRODIALYSIS

=> s l4 and nanoparticle

11088 NANOPARTICLE
17675 NANOPARTICLES
18714 NANOPARTICLE

(NANOPARTICLE OR NANOPARTICLES)

L13 1 L4 AND NANOPARTICLE

=> dis l13 bib abs

L13 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS

AN 2000:666737 CAPLUS

DN 133:254142

TI Catalytic method for modifying carbohydrates, alcohols, aldehydes or polyhydroxy compounds

IN Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf; Vorlop, Klaus-Dieter; Haji Begli, Alireza

PA Sudzucker Aktiengesellschaft, Germany

SO PCT Int. Appl., 45 pp.

CODEN: PIXXD2

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
	W: AU, CA, IL, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19911504	A1	20001019	DE 1999-19911504	19990316
	EP 1165580	A1	20020102	EP 2000-925117	20000316
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 747812	B2	20020523	AU 2000-43953	20000316
PRAI	DE 1999-19911504	A	19990316		
	WO 2000-EP2351	W	20000316		

AB Industrial conversion of the title compds. in aq. phase is carried out in the presence of **metal catalysts** consisting of polymer-stabilized **nanoparticles**. A **catalyst** of this type is not deactivated by the conversion reaction as long as the stabilizing interaction between the polymer and the **nanoparticles** is maintained. For example, activity of an Al₂O₃-supported, poly(vinylpyrrolidone)-stabilized Pt colloid **catalyst** (prepn. given) in oxidn. of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al₂O₃-supported Pt **catalyst** decreased to .apprx.35% after 10 runs.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s l4 and alloy

564477 ALLOY
443476 ALLOYS
720959 ALLOY

(ALLOY OR ALLOYS)

L14 5 L4 AND ALLOY

=> s l14 and alcohol

165042 ALCOHOL
124445 ALCOHOLS
270252 ALCOHOL

(ALCOHOL OR ALCOHOLS)

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503294 ALC
162712 ALCS
587755 ALC
      (ALC OR ALCS)
681787 ALCOHOL
      (ALCOHOL OR ALC)
L15      0 L14 AND ALCOHOL

=> s metal
      1371087 METAL
      685692 METALS
L16      1661953 METAL
      (METAL OR METALS)

=> s l16 and catalyst
      601917 CATALYST
      585163 CATALYSTS
      767433 CATALYST
      (CATALYST OR CATALYSTS)
L17      140657 L16 AND CATALYST

=> s l17 and nanoparticle
      11088 NANOPARTICLE
      17675 NANOPARTICLES
      18714 NANOPARTICLE
      (NANOPARTICLE OR NANOPARTICLES)
L18      593 L17 AND NANOPARTICLE

=> s l18 and polymer
      849461 POLYMER
      708926 POLYMERS
      1158743 POLYMER
      (POLYMER OR POLYMERS)
L19      108 L18 AND POLYMER

=> s l19 and stabiliz?
      354798 STABILIZ?
L20      30 L19 AND STABILIZ?

=> s l20 and oxidat?
      501238 OXIDAT?
      626498 OXIDN
      8025 OXIDNS
      628149 OXIDN
      (OXIDN OR OXIDNS)
      862535 OXIDAT?
      (OXIDAT? OR OXIDN)
L21      7 L20 AND OXIDAT?

=> s l21 and aldehyde
      89500 ALDEHYDE
      84224 ALDEHYDES
      139257 ALDEHYDE
      (ALDEHYDE OR ALDEHYDES)
L22      1 L21 AND ALDEHYDE

=> dis l21 bib abs

L21  ANSWER 1 OF 7  CAPLUS  COPYRIGHT 2002 ACS
AN   2002:720926  CAPLUS
DN   137:222515
TI   Catalysis by gold nanoparticles
AU   Grisel, Ruud; Weststrate, Kees-Jan; Gluhoi, Andrea; Nieuwenhuys, Bernard
      E.

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CS Leiden Institute of Chemistry, Leiden University, Leiden, 2300, Neth.
 SO Gold Bulletin (London, United Kingdom) (2002), 35(2), 39-45
 CODEN: GOBUFW; ISSN: 1027-8591
 PB World Gold Council
 DT Journal; General Review
 LA English
 AB A review; gold **catalysts** have superior activity in CO and other **oxidns.** at low temps. Both a small (.apprx. 5nm) particle size and the presence of a partly reducible oxide (ceria or a transition **metal** oxide) have a beneficial effect on the **catalyst** performance. The present paper reviews our recent studies focused on understanding the specific role of the Au particle size and that of the oxide (MO). Our personal viewpoint on gold catalysis is outlined. The effects of Au particle size and of the oxidic additive are distinguished by using several alumina-supported gold **catalysts** having different gold particle sizes and various oxidic additives. The most active **catalyst** in CO **oxidn.** is the multicomponent **catalyst** Au/MgO/MnOx/Al₂O₃ with MgO being a **stabilizer** for the Au particle size and MnOx being the cocatalyst. This **catalyst** also exhibits good performance in selective **oxidn** . of CO in a hydrogen atm., a reaction relevant for the development of **polymer** electrolyte fuel cell technol.

=> s 121 and alcohol
 165042 ALCOHOL
 124445 ALCOHOLS
 270252 ALCOHOL
 (ALCOHOL OR ALCOHOLS)
 503294 ALC
 162712 ALCS
 587755 ALC
 (ALC OR ALCS)
 681787 ALCOHOL
 (ALCOHOL OR ALC)
 L23 1 L21 AND ALCOHOL

=> dis 123 bib abs

L23 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
 AN 2000:666737 CAPLUS
 DN 133:254142
 TI Catalytic method for modifying carbohydrates, **alcohols**,
 aldehydes or polyhydroxy compounds
 IN Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf; Vorlop, Klaus-Dieter;
 Haji Begli, Alireza
 PA Sudzucker Aktiengesellschaft, Germany
 SO PCT Int. Appl., 45 pp.
 CODEN: PIXXD2
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
	W: AU, CA, IL, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19911504	A1	20001019	DE 1999-19911504	19990316
	EP 1165580	A1	20020102	EP 2000-925117	20000316
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 747812	B2	20020523	AU 2000-43953	20000316
PRAI	DE 1999-19911504	A	19990316		

WO 2000-EP2351 W 20000316
 AB Industrial conversion of the title compds. in aq. phase is carried out in the presence of **metal catalysts** consisting of **polymer-stabilized nanoparticles**. A **catalyst** of this type is not deactivated by the conversion reaction as long as the **stabilizing** interaction between the **polymer** and the **nanoparticles** is maintained. For example, activity of an Al₂O₃-supported, poly(vinylpyrrolidone)-**stabilized** Pt colloid **catalyst** (prepn. given) in **oxidn.** of sorbose with O remained unchanged after 10 repeated expts. whereas the activity of a customary Al₂O₃-supported Pt **catalyst** decreased to .apprx.35% after 10 runs.
 RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s 121 and carbohydrate
 108745 CARBOHYDRATE
 116172 CARBOHYDRATES
 176447 CARBOHYDRATE
 (CARBOHYDRATE OR CARBOHYDRATES)
 L24 1 L21 AND CARBOHYDRATE

=> s 121 and fructose
 53219 FRUCTOSE
 82 FRUCTOSES
 53232 FRUCTOSE
 (FRUCTOSE OR FRUCTOSES)
 L25 1 L21 AND FRUCTOSE

=> dis 125 bib abs

L25 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
 AN 2000:666737 CAPLUS
 DN 133:254142
 TI Catalytic method for modifying carbohydrates, alcohols, aldehydes or polyhydroxy compounds
 IN Capan, Emine; Hahnlein, Marc Sascha; Prusse, Ulf; Vorlop, Klaus-Dieter; Haji Begli, Alireza
 PA Sudzucker Aktiengesellschaft, Germany
 SO PCT Int. Appl., 45 pp.
 CODEN: PIXXD2
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000055165	A1	20000921	WO 2000-EP2351	20000316
	W: AU, CA, IL, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	DE 19911504	A1	20001019	DE 1999-19911504	19990316
	EP 1165580	A1	20020102	EP 2000-925117	20000316
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AU 747812	B2	20020523	AU 2000-43953	20000316
PRAI	DE 1999-19911504	A	19990316		
	WO 2000-EP2351	W	20000316		

AB Industrial conversion of the title compds. in aq. phase is carried out in the presence of **metal catalysts** consisting of **polymer-stabilized nanoparticles**. A **catalyst** of this type is not deactivated by the conversion reaction as long as the **stabilizing** interaction between the **polymer** and the **nanoparticles** is maintained. For

example, activity of an Al₂O₃-supported, poly(vinylpyrrolidone)-
stabilized Pt colloid **catalyst** (prepn. given) in
oxidn. of sorbose with O remained unchanged after 10 repeated
 expts. whereas the activity of a customary Al₂O₃-supported Pt
catalyst decreased to .apprx.35% after 10 runs.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> dis hist

(FILE 'HOME' ENTERED AT 20:13:40 ON 09 OCT 2002)

FILE 'CAPLUS' ENTERED AT 20:13:50 ON 09 OCT 2002

L1 24959 S AMINATION
 L2 4959 S L1 AND REDUCTIVE
 L3 964 S L2 AND CATALYST
 L4 209 S L3 AND METAL
 L5 38 S L4 AND ALCOHOL
 L6 7 S L5 AND AQUEOUS
 L7 0 S L6 AND PROMOTER
 L8 35 S L4 AND ALDEHYDE
 L9 6 S L8 AND AQUEOUS
 L10 2 S L4 AND CARBOHYDRATE
 L11 0 S L6 AND ELECTRODIALYSIS
 L12 0 S L9 AND ELECTRODIALYSIS
 L13 1 S L4 AND NANOPARTICLE
 L14 5 S L4 AND ALLOY
 L15 0 S L14 AND ALCOHOL
 L16 1661953 S METAL
 L17 140657 S L16 AND CATALYST
 L18 593 S L17 AND NANOPARTICLE
 L19 108 S L18 AND POLYMER
 L20 30 S L19 AND STABILIZ?
 L21 7 S L20 AND OXIDAT?
 L22 1 S L21 AND ALDEHYDE
 L23 1 S L21 AND ALCOHOL
 L24 1 S L21 AND CARBOHYDRATE
 L25 1 S L21 AND FRUCTOSE

=> s l20 and hydrogenation or reduction

150203 HYDROGENATION
 1908 HYDROGENATIONS
 150451 HYDROGENATION
 (HYDROGENATION OR HYDROGENATIONS)
 262772 REDUCTION
 5081 REDUCTIONS
 265419 REDUCTION
 (REDUCTION OR REDUCTIONS)
 742417 REDN
 39209 REDNS
 766916 REDN
 (REDN OR REDNS)
 891539 REDUCTION
 (REDUCTION OR REDN)

L26 891546 L20 AND HYDROGENATION OR REDUCTION

=> s l20 and hydrogenation

150203 HYDROGENATION
 1908 HYDROGENATIONS
 150451 HYDROGENATION
 (HYDROGENATION OR HYDROGENATIONS)

L27 19 L20 AND HYDROGENATION

=> s 127 and aldehyde
89500 ALDEHYDE
84224 ALDEHYDES
139257 ALDEHYDE
(ALDEHYDE OR ALDEHYDES)
L28 0 L27 AND ALDEHYDE

=> s 127 and alcohol
165042 ALCOHOL
124445 ALCOHOLS
270252 ALCOHOL
(ALCOHOL OR ALCOHOLS)
503294 ALC
162712 ALCS
587755 ALC
(ALC OR ALCS)
681787 ALCOHOL
(ALCOHOL OR ALC)
L29 3 L27 AND ALCOHOL

=> dis 129 1-3 bib abs

L29 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 ACS
AN 2001:65241 CAPLUS
DN 134:268058
TI Synthesis and functionalities of poly(N-vinylalkyloamide). XIII.
Temperature and pH dependence of the catalytic activity of colloidal
platinum **nanoparticles stabilized** by
poly[(vinylamine)-co-(N-vinylisobutyramide)]
AU Chen, Chun-Wei; Arai, Kumiko; Yamamoto, Kazuya; Serizawa, Takeshi; Akashi,
Mitsuru
CS Dep. Applied Chem. Chemical Eng., Kagoshima Univ., Kagoshima, 890-0065,
Japan
SO Macromolecular Chemistry and Physics (2000), 201(18), 2811-2819 *date*
CODEN: MCHPES; ISSN: 1022-1352
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
AB Colloidal platinum **nanoparticles** in the size range of 5-35 .ANG.
have been successfully prepd. in water at room temp. by NaBH4 redn. of
ionic platinum in the presence of poly[(vinylamine)-co-(N-
vinylisobutyramide)] (PVAm-co-PNVIBA). The temp.- and pH-responsive
copolymer was used for the first time as the **stabilizer** of
colloidal **metal** particles. Three PVAm-co-PNVIBA copolymers with
PVAm contents of 4.1, 8.3, and 19.8 mol-% were examd. The particle size
and morphol. of the platinum colloids varied with the copolymer compn., as
confirmed by TEM measurements. The **polymer-stabilized**
Pt **nanoparticles** pptd. on heating above their crit. flocculation
temps. (CFTs), which were strongly dependent on the soln. pH and the
copolymer compn. The CFTs were 0.2-1.6.degree.C lower than the lower
crit. soln. temps. (LCSTs) of the copolymers free in water and the
differences increased with increasing PVAm content. The catalytic
activity of the Pt **nanoparticles** was investigated in the aq.
hydrogenation of allyl **alc.** It was found that the
activity was regulated through temp.- and pH-induced phase sepn. The PVAm
content also strongly effected the catalytic activity and the morphol. of
phase sepd. **catalysts**. With a PVAm content of 4.1 mol%, the
colloidal platinum sol reversibly changed its catalytic activity with
changes in temp.
RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS
AN 2000:566746 CAPLUS

DN 134:117443
 TI **Hydrogenation** of olefins in aqueous phase, catalyzed by
 ligand/protected and **polymer**-protected rhodium colloids
 AU Borsla, A.; Wilhelm, A. M.; Canselier, J. P.; Delmas, H.
 CS Laboratoire de Genie Chimique-UMR CNRS 5503 (INPT/UPS) Ecole Nationale
 Supérieure d'Ingenieurs de Genie Chimique, Toulouse, 31078/4, Fr.
 SO Studies in Surface Science and Catalysis (2000), 130C(International *data*
 Congress on Catalysis, 2000, Pt. C), 2093-2098
 CODEN: SSCTDM; ISSN: 0167-2991
 PB Elsevier Science B.V.
 DT Journal
 LA English
 AB M-tri-sulfonated triphenylphosphine oxide as its sodium salt (OTPPTS) and
 highly water sol. **polymers** such as poly(vinyl alc.)
 (PVA) and poly(vinylpyrrolidone) (PVP) were used to **stabilize**
 colloidal suspensions of active rhodium particles. The **stabilized**
 colloids were used as **catalysts** in **hydrogenation** of
 oct-1-ene in a two-liq. phase system. The effect of various parameters on
 the stability and activity of the **metal nanoparticles**
 under more or less severe conditions was studied. For OTPPTS-protected
 rhodium colloid systems, the colloid stability improved by increasing the
 P/Rh molar ratio. Lowering the pressure also improved stability, but led
 to lower catalytic activity while temp. had no effect on stability but
 rather on the formation of the active species. The PVP(K15)-Rh colloids
 can be re-used more than one time at 50.degree. and 0.3 MPa without loss
 of activity, but not the PVP(K30)-Rh and PVA-Rh colloids. Recycling of
 the catalytic phase provided unchanged turnover frequencies. Suppression
 of co-solvent did not result in noticeable changes in activity, indicating
 that the reaction takes place at the interface. The MET micrographs of
 the catalytic phase of the OTPPTS-Rh system after use in
hydrogenation shows 4 nm particles contg. rhodium oxide and
 metallic rhodium. IR spectroscopy anal. of the PVP-Rh colloids shows
 geminal and terminal Rh-CO species with a preponderance of the geminal
 ones.
 RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L29 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS
 AN 1999:150983 CAPLUS
 DN 130:257756
 TI Homogeneous **hydrogenation** catalysis with monodisperse,
 dendrimer-encapsulated Pd and Pt **nanoparticles**
 AU Zhao, Mingqi; Crooks, Richard M.
 CS Department of Chemistry, Texas A and M University, College Station, TX,
 77842-3012, USA
 SO Angewandte Chemie, International Edition (1999), 38(3), 364-366
 CODEN: ACIEF5; ISSN: 1433-7851
 PB Wiley-VCH Verlag GmbH
 DT Journal
 LA English
 AB In this report we show that composite materials that consist of noble
metal nanoparticles stabilized within
 dendrimer interiors are suitable for use as homogeneous
hydrogenation catalysts. These interesting new
 materials are prep'd. by sorbing PdII or PtII ions into hydroxyl-terminated
 poly(amidoamine) (PAMAM) dendrimers (Gn-OH, where Gn represents the nth
 generation) where they complex with interior amine groups. Subsequent
 chem. redn. of the **metal** ions with BH4- yields
 dendrimer-encapsulated **metal nanoparticles** that
 contain the same no. of atoms as were preloaded into the dendrimer
 initially. The resulting composites are sol. in water and stable, either
 dry or solvated, for at least several months. Thus, the dendrimer acts as
 both a template for the prepn. of monodisperse **nanoparticles** and
 a porous **stabilizer**. Dendrimer-encapsulated Pd clusters exhibit

high catalytic activity for the **hydrogenation** of alkenes in water. Importantly, the catalytic activity can be controlled by adjusting the size (generation) of the dendrimer; i.e., the dendrimer acts as a "nanofilter" with a synthetically controllable mesh.

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s 127 and carbohydrate
108745 CARBOHYDRATE
116172 CARBOHYDRATES
176447 CARBOHYDRATE
 (CARBOHYDRATE OR CARBOHYDRATES)
L30 0 L27 AND CARBOHYDRATE

=> s 127 and sugar
211736 SUGAR
113563 SUGARS
277596 SUGAR
 (SUGAR OR SUGARS)
L31 0 L27 AND SUGAR

=> s 127 and fructose
53219 FRUCTOSE
82 FRUCTOSES
53232 FRUCTOSE
 (FRUCTOSE OR FRUCTOSES)
L32 0 L27 AND FRUCTOSE

=> s 127 and glucose
341326 GLUCOSE
712 GLUCOSES
341480 GLUCOSE
 (GLUCOSE OR GLUCOSES)
L33 0 L27 AND GLUCOSE

=> s 127 and sorbose
3097 SORBOSE
38 SORBOSES
3108 SORBOSE
 (SORBOSE OR SORBOSES)
L34 0 L27 AND SORBOSE

=> s 120 and reduction
262772 REDUCTION
5081 REDUCTIONS
265419 REDUCTION
 (REDUCTION OR REDUCTIONS)
742417 REDN
39209 REDNS
766916 REDN
 (REDN OR REDNS)
891539 REDUCTION
 (REDUCTION OR REDN)
L35 15 L20 AND REDUCTION

=> s 135 and aqueous
148293 AQUEOUS
1 AQUEOUSES
148294 AQUEOUS
 (AQUEOUS OR AQUEOUSES)
933909 AQ
119 AQS
933982 AQ

(AQ OR AQS)
968682 AQUEOUS
(AQUEOUS OR AQ)

L36 3 L35 AND AQUEOUS

=> dis 136 1-3 bib abs

L36 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2001:442833 CAPLUS

DN 135:182330

TI The Effect of **Stabilizers** on the Catalytic Activity and Stability of Pd Colloidal **Nanoparticles** in the Suzuki Reactions in **Aqueous** Solution

AU Li, Yin; El-Sayed, Mostafa A.

CS Laser Dynamics Laboratory School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA, 30332-0400, USA

SO Journal of Physical Chemistry B (2001), 105(37), 8938-8943
CODEN: JPCBFK; ISSN: 1089-5647

PB American Chemical Society

DT Journal

LA English

AB The role was studied, of capping materials on catalytic activity and stability of transition **metal nanoparticles** used in catalysis in soln. The Pd **nanoparticles** were prepd. by **redn.** of **metal** salts in the presence of **stabilizers**, hydroxy-terminated poly(amido-amine) (PAMAM) dendrimers (Gn-OH, where Gn represents the nth generation), polystyrene-b-poly(sodium acrylate), and poly(N-vinyl-2-pyrrolidone) (PVP). The particles were used as **catalysts** in Suzuki reactions in an **aq.** medium to study the effects of these **stabilizers** on the metallic **nanoparticle** catalytic activity and stability. The stability of the Pd **nanoparticles** was measured by the tendency of **nanoparticles** to give Pd black powder after the catalytic reaction. The Suzuki reaction is a good acid test for examg. the stability of these **nanoparticles**, as it takes place when refluxed at about 100.degree. for 24 h. The stability depends on the type of **stabilizer**, reactant, and base used in the reaction system. The Pd **nanoparticles** **stabilized** with the block copolymer, G3 dendrimer, and PVP are efficient **catalysts** for the Suzuki reactions between phenylboronic acid (or 2-thiopheneboronic acid) and iodobenzene. The G4 dendrimer is an effective **stabilizer**; however, strong encapsulation of Pd particles in the dendrimer results in a loss of catalytic activity. The Suzuki reactions between arylboronic acids and bromoarenes catalyzed by Pd **nanoparticles** result in byproducts due to the homo-coupling of bromoarenes. The two properties are anti-correlated, i.e., the most stable is the least catalytically active.

RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 2001:65241 CAPLUS

DN 134:268058

TI Synthesis and functionalities of poly(N-vinylalkyloamide). XIII. Temperature and pH dependence of the catalytic activity of colloidal platinum **nanoparticles** **stabilized** by poly[(vinylamine)-co-(N-vinylisobutyramide)]

AU Chen, Chun-Wei; Arai, Kumiko; Yamamoto, Kazuya; Serizawa, Takeshi; Akashi, Mitsuru

CS Dep. Applied Chem. Chemical Eng., Kagoshima Univ., Kagoshima, 890-0065, Japan

SO Macromolecular Chemistry and Physics (2000), 201(18), 2811-2819 *detel*
CODEN: MCHPES; ISSN: 1022-1352

PB Wiley-VCH Verlag GmbH

DT Journal
LA English
AB Colloidal platinum **nanoparticles** in the size range of 5-35 .ANG. have been successfully prepd. in water at room temp. by NaBH₄ **redn** . of ionic platinum in the presence of poly[(vinylamine)-co-(N-vinylisobutyramide)] (PVAm-co-PNVIBA). The temp.- and pH-responsive copolymer was used for the first time as the **stabilizer** of colloidal **metal** particles. Three PVAm-co-PNVIBA copolymers with PVAm contents of 4.1, 8.3, and 19.8 mol-% were examd. The particle size and morphol. of the platinum colloids varied with the copolymer compn., as confirmed by TEM measurements. The **polymer-stabilized** Pt **nanoparticles** pptd. on heating above their crit. flocculation temps. (CFTs), which were strongly dependent on the soln. pH and the copolymer compn. The CFTs were 0.2-1.6.degree.C lower than the lower crit. soln. temps. (LCSTs) of the copolymers free in water and the differences increased with increasing PVAm content. The catalytic activity of the Pt **nanoparticles** was investigated in the **aq.** hydrogenation of allyl alc. It was found that the activity was regulated through temp.- and pH-induced phase sepn. The PVAm content also strongly effected the catalytic activity and the morphol. of phase sepd. **catalysts**. With a PVAm content of 4.1 mol%, the colloidal platinum sol reversibly changed its catalytic activity with changes in temp.

RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L36 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2002 ACS

AN 1999:760465 CAPLUS

DN 132:107585

TI Preparation and characterization of solvent-**stabilized** nanoparticulate platinum and palladium and their catalytic behavior towards the enantioselective hydrogenation of ethyl pyruvate

AU Collier, P. J.; Iggo, J. A.; Whyman, R.

CS Department of Chemistry, University of Liverpool, Liverpool, UK

SO Journal of Molecular Catalysis A: Chemical (1999), 146(1-2), 149-157
CODEN: JMCCF2; ISSN: 1381-1169

PB Elsevier Science B.V.

DT Journal

LA English

AB Solvent-**stabilized** Pt and Pd **nanoparticles**, of s size range 2.3-2.8 nm and 2.7-3.8 nm, resp., were prepd. by **metal** vapor synthesis routes, characterized by TEM, and their behavior as **catalysts** for the enantioselective hydrogenation of Et pyruvate (EP) studied; comparisons were effected with the performance of std. supported Pt and Pd **catalysts**. Cinchona alkaloid-modified Pt **nanoparticles** display parallel behavior to that exhibited by their conventional supported counterparts both in terms of the sense of the enantioselectivity in the Et lactate product and in the acceleration in reaction rate relative to the unmodified system. With Pd, however, significant differences are noted. Here, the sense of the enantioselectivity relative to that reported previously over conventional supported **catalysts** is reversed, i.e., an (R)- vs. (S)-enantiomer switch occurs, and a rate acceleration rather than retardation is noted on cinchona alkaloid modification. The Pt particle size distribution shows a higher degree of monodispersity after use in catalysis, although the av. particle size remains essentially unchanged, whereas the behavior of the Pd **nanoparticles** shows evidence of concn. dependence, lower concns. showing Pt-like behavior but more highly concd. prepn. showing evidence of significant aggregation during catalysis. With Pt **catalysts**, the presence of H₂O as a component of the ketonic solvent system results in a significant acceleration in overall reaction rate with both conventional supported **catalysts** and their solvent-**stabilized** counterparts. In sharp contrast, totally **aq.**-based colloidal Pt prepn., obtained

by conventional salt **redn.**, display very low reaction rates and enantioselectivities.

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 1 OF 5 MEDLINE
 ACCESSION NUMBER: 2002478532 IN-PROCESS
 DOCUMENT NUMBER: 22225843 PubMed ID: 12240156
 TITLE: **Nanoparticles** as structural and functional units in surface-confined architectures.
 AUTHOR: Shipway A N; Willner I
 CORPORATE SOURCE: Institute of Chemistry, Hebrew University of Jerusalem, Jerusalem 91904, Israel.
 SOURCE: Chem Commun (Camb), (2001 Oct 21) (20) 2035-45.
 Journal code: 9610838. ISSN: 1359-7345.
 PUB. COUNTRY: England: United Kingdom
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 LANGUAGE: English
 FILE SEGMENT: IN-PROCESS; NONINDEXED; Priority Journals
 ENTRY DATE: Entered STN: 20020921
 Last Updated on STN: 20020921

AB The nanoscale engineering of functional chemical assemblies has attracted recent research effort to provide dense information storage, miniaturized sensors, efficient energy **conversion**, light-harvesting, and mechanical motion. Functional **nanoparticles** exhibiting unique photonic, electronic and catalytic properties provide invaluable building blocks for such nanoengineered architectures. **Metal nanoparticle** arrays crosslinked by molecular receptor units on electrodes act as selective sensing interfaces with controlled porosity and tunable sensitivity. Photosensitizer/electron-acceptor bridged arrays of Au-**nanoparticles** on conductive supports act as photoelectrochemically active electrodes. Semiconductor **nanoparticle** composites on surfaces act as efficient light collecting systems, and nanoengineered semiconductor 'core-shell' nanocrystal assemblies reveal enhanced photoelectrochemical performance due to effective charge separation. Layered **metal** and semiconductor **nanoparticle** arrays crosslinked by nucleic acids find applications in the optical, electronic and photoelectrochemical detection of DNA. **Metal** and semiconductor **nanoparticles** assembled on DNA templates may be used to generate complex electronic circuitry. **Nanoparticles** incorporated in hydrogel matrices yield new composite materials with novel magnetic, optical and electronic properties.

L4 ANSWER 2 OF 5 MEDLINE
 ACCESSION NUMBER: 2000194022 MEDLINE
 DOCUMENT NUMBER: 20194022 PubMed ID: 10673315
 TITLE: Hybrid electrochemical/chemical synthesis of quantum dots.
 AUTHOR: Penner R M
 CORPORATE SOURCE: Institute for Surface and Interface Science, Department of Chemistry, University of California, Irvine, California 92679-2025, USA.. rmpenner@uci.edu
 SOURCE: Acc Chem Res, (2000 Feb) 33 (2) 78-86. Ref: 37
 Journal code: 0157313. ISSN: 0001-4842.
 PUB. COUNTRY: United States
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
 General Review; (REVIEW)
 (REVIEW, TUTORIAL)
 LANGUAGE: English
 FILE SEGMENT: Priority Journals
 ENTRY MONTH: 200005
 ENTRY DATE: Entered STN: 20000512
 Last Updated on STN: 20000512
 Entered Medline: 20000501

AB The "electrochemical/chemical method" (or "E/C method") is a new wet chemical method for synthesizing semiconductor quantum dots on graphite surfaces. The E/C synthesis of quantum dots composed of the generic semiconducting salt, MX, typically involves three steps: (1)

electrochemical deposition of **nanoparticles** of the **metal**, M degrees, from a solution of **metal** ions, $M(n)(+)$; (2) electrochemical oxidation of these **metal** particles to $MO(n)()(/2)$, and; (3) displacement of the oxygen from $MO(n)()(/2)$ using HX (for example) to yield **nanoparticles** of MX. This **conversion** from **metal** to **metal** oxide to **metal** salt occurs on a particle-by-particle basis; that is, each **metal nanoparticle** is converted into a semiconductor **nanoparticle**. E/C-synthesized beta-CuI and CdS quantum dots possess many of the attributes of quantum dots synthesized using molecular beam epitaxy, including epitaxial orientation on the graphite surface, a narrow size dispersion, and strong, particle size-tunable photoluminescence. However, the E/C method is faster, cheaper, and applicable to a greater number of materials.

L4 ANSWER 3 OF 5 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
 ACCESSION NUMBER: 2002263725 EMBASE
 TITLE: Plasmon-assisted transmission of entangled photons.
 AUTHOR: Altewischer E.; Van Exter M.P.; Woerdman J.P.
 CORPORATE SOURCE: E. Altewischer, Leiden University, Huygens Laboratory, PO Box 9504, 2300 RA Leiden, Netherlands.
 erwin@molphys.leidenuniv.nl
 SOURCE: Nature, (18 Jul 2002) 418/6895 (304-306).
 Refs: 16
 ISSN: 0028-0836 CODEN: NATUAS
 COUNTRY: United Kingdom
 DOCUMENT TYPE: Journal; Article
 FILE SEGMENT: 027 Biophysics, Bioengineering and Medical Instrumentation

LANGUAGE: English
 SUMMARY LANGUAGE: English

AB The state of a two-particle system is said to be entangled when its quantum-mechanical wavefunction cannot be factorized into two single-particle wavefunctions. This leads to one of the strongest counter-intuitive features of quantum mechanics, namely non-locality. Experimental realization of quantum entanglement is relatively easy for photons; a starting photon can spontaneously split into a pair of entangled photons inside a nonlinear crystal. Here we investigate the effects of nanostructured **metal** optical elements on the properties of entangled photons. To this end, we place optically thick **metal** films perforated with a periodic array of subwavelength holes in the paths of the two entangled photons. Such arrays convert photons into surface-plasmon waves-optically excited compressive charge density waves-which tunnel through the holes before reradiating as photons at the far side. We address the question of whether the entanglement survives such a **conversion** process. Our coincidence counting measurements show that it does, so demonstrating that the surface plasmons have a true quantum nature. Focusing one of the photon beams on its array reduces the quality of the entanglement. The propagation of the surface plasmons makes the array effectively act as a 'which way' detector.

L4 ANSWER 4 OF 5 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.
 ACCESSION NUMBER: 2002187476 EMBASE
 TITLE: Nanoporous iron oxide membranes: Layer-by-layer deposition and electrochemical characterisation of processes within nanopores.
 AUTHOR: McKenzie K.J.; Marken F.; Hyde M.; Compton R.G.
 CORPORATE SOURCE: F. Marken, Department of Chemistry, Loughborough University, Leicestershire LE11 3TU, United Kingdom.
 f.marken@lboro.ac.uk
 SOURCE: New Journal of Chemistry, (2002) 26/5 (625-629).
 Refs: 27
 ISSN: 1144-0546 CODEN: NJCHE5

COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English

AB A versatile procedure for the formation of nanoporous **metal** oxide membranes is reported, based on a layer-by-layer deposition procedure ('directed assembly') of **metal** oxide **nanoparticles** with appropriate 'linker' molecules; here Fe(2)O(3) particles and phytic acid. Two types of nanoporous Fe(2)O(3) membranes have been prepared and characterised: (A) a nanofilm deposit composed of 4-5 nm diameter Fe(2)O(3) particles linked by phytic acid and (B) a nanoporous film formed after calcination of the type A deposit at 500.degree.C in air. The nanofilm deposits are characterised by microscopy (SEM and AFM) and by electrochemical methods. Mechanically stable and homogeneous nanofilm deposits with controlled thickness (ca. 3 nm per layer deposited) were obtained. Transport of small molecules or ions through the nanoporous structure and their electrochemical **conversion** are shown to be fast in the presence of a sufficiently high concentration of supporting electrolyte. During the electrochemical oxidation of ferrocyanide, Fe(CN)(6)(-4), the nanoporous structure of the type A deposit is shown to act as an 'active' membrane, which changes the electrode kinetics by 'double-layer superposition' effects. For the second type of nanofilm, type B, ferrocyanide is accumulated by adsorption within the porous structure.

L4 ANSWER 5 OF 5 EMBASE COPYRIGHT 2002 ELSEVIER SCI. B.V.

ACCESSION NUMBER: 2001388918 EMBASE

TITLE: **Nanoparticles** as structural and functional units in surface-confined architectures.

AUTHOR: Shipway A.N.; Willner I.

CORPORATE SOURCE: I. Willner, Institute of Chemistry, Hebrew University of Jerusalem, Jerusalem 91904, Israel. willnea@vms.huji.ac.il

SOURCE: Chemical Communications, (21 Oct 2001) 7/20 (2035-2045).

Refs: 150

ISSN: 1359-7345 CODEN: CHCOFS

COUNTRY: United Kingdom

DOCUMENT TYPE: Journal; General Review

FILE SEGMENT: 029 Clinical Biochemistry

LANGUAGE: English

SUMMARY LANGUAGE: English

AB The nanoscale engineering of functional chemical assemblies has attracted recent research effort to provide dense information storage, miniaturized sensors, efficient energy **conversion**, light-harvesting, and mechanical motion. Functional **nanoparticles** exhibiting unique photonic, electronic and catalytic properties provide invaluable building blocks for such nanoengineered architectures. **Metal nanoparticle** arrays crosslinked by molecular receptor units on electrodes act as selective sensing interfaces with controlled porosity and tunable sensitivity. Photosensitizer/electron-acceptor bridged arrays of Au-**nanoparticles** on conductive supports act as photoelectrochemically active electrodes. Semiconductor **nanoparticle** composites on surfaces act as efficient light collecting systems, and nanoengineered semiconductor 'core - shell' nanocrystal assemblies reveal enhanced photoelectrochemical performance due to effective charge separation. Layered **metal** and semiconductor **nanoparticle** arrays crosslinked by nucleic acids find applications in the optical, electronic and photoelectrochemical detection of DNA. **Metal** and semiconductor **nanoparticles** assembled on DNA templates may be used to generate complex electronic circuitry. **Nanoparticles** incorporated in hydrogel matrices yield new composite materials with novel magnetic, optical and electronic properties.